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Observations of Occultations of Stars by the Moon, and of Phenomena of Jupiter's Satellites, made at the Royal Observatory, Greenwich, from 1871, January to December.

Communicated by the Astronomer Royal.

Occultations of Stars by the Moon.

Day of Observation. 1871.		Phenomenon.	Moon's Limb.	Mean Solar Time. h m s	Observer.
Jan. 31	(*a*)	Disapp. of *l* Tauri	Dark	4 48 34·5	J. C.
Mar. 3		Disapp. of η Cancri	Dark	11 9 18·4	H. C.
,,		Disapp. of 39 Cancri	Dark	15 1 13·2	,,
,,	(*b*)	Disapp. of 40 Cancri	Dark	15 4 52·6	,,
Mar. 28	(*c*)	Reapp. of μ Geminorum	Bright	10 53 31·7	E.
Oct. 23		Disapp. of τ^1 Aquarii	Dark	8 41 16·6	L.
,,		Disapp. of τ^2 Aquarii	Dark	9 49 29·7	,,
,,	(*d*)	Reapp. of τ^2 Aquarii	Bright	10 59 30·2	,,
Dec. 20		Disapp. of ν Piscium	Dark	12 49 32·1	J. C.

(*a*) Observed in daylight; the star was very faint, and the point of disappearance being very near the bright limb, the time noted may be a few seconds too soon.

(*b*) The star very faint; observation not satisfactory.

(*c*) The star was seen quite bright quite close to the limb.

(*d*) The time noted is probably correct to a second.

Phenomena of Jupiter's Satellites.

Day of Observation. 1871.		Satellite.	Phenomena.	Mean Solar Time of Obs. h m s	Mean Solar Time from N.A. h m s	Observer.
Jan. 5	(*a*)	I	Ecl. reapp.	6 11 57·9	6 11 48·4	C.
12		I	Ecl. reapp.	8 8 10·0	8 7 5·6	W. C.
17		I	Ecl. reapp.	15 33 34·3	15 33 34·8	,,
19		III	Tr. ing. 1st contact	7 43 57·4		J. C.
,,		III	,, bisection	7 48 56·5	7 47 ...	,,
,,		III	,, last contact	7 54 55·6		,,
26		I	Ecl. reapp.	11 57 49·3	11 58 1·8	C.
Feb. 6		III	Occ. reapp. 1st app.	7 8 7·9		J C.
,,		III	,, bisection	7 12 37·1	7 16 ...	,,
,,		III	,, last cont.	7 17 6·4		,,
13		III	Occ. disapp. bisection	8 18 47·8	8 20 ...	E.
Mar. 10	(*b*)	III	Tr. ing. 1st contact	9 59 22·3	10 0 ...	C.
22	(*c*)	I	Ecl. reapp.	8 55 32·7	8 55 14·3	,,
April 15		III	Tr. egr. last cont.	9 44 48·9	9 41 ...	E.
Sept. 12		IV	Ecl. reapp.	14 32 44·5	14 39 20·2	J. C.
Oct. 13		II	Ecl. disapp.	12 32 56·1	12 31 23·4	G.
22	(*d*)	III	Ecl. reapp.	12 11 51·6	12 12 28·4	W. C.

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Day of Observation.		Satellite.	Phenomena.	Mean Solar Time of Obs.	Mean Solar Time from N.A.	Observer.
1871.				h m s	h m s	
Nov.	5	III	Ecl. disapp.	17 0 49·1	16 58 29·9	G.
	18 (*e*)	IV	Ecl. reapp.	15 6 23·2	15 12 27·0	W. C.
Dec.	4 (*f*)	III	Ecl. reapp.	12 7 55·8	12 5 47·5	G.
	,,	III	Occ. disapp. 1st cont.	12 25 52·8	12 30 ...	,,
	,,	III	,, last cont.	12 29 7·3		,,
	29	III	Tr. ing. 1st cont.	12 16 36·4	12 19 ...	C.
	,,	III	,, last cont.	12 23 5·3		,,
	30	I	Ecl. disapp.	10 47 38·9	10 48 11·5	G.
	,,	IV	Tr. ing. 1st cont.	11 7 45·6	11 21 ...	,,
	,,	IV	,, last cont.	11 12 14·8		,,
	,,	IV	Tr. egr. bisection	15 25 33·2	15 35 ...	E.
	,,	IV	,, last cont.	15 32 32·1		,,

(*a*) Clouds passing over the planet.
(*b*) Cloudy; observation not satisfactory.
(*c*) The images of *Jupiter* and the satellites were very tremulous and faint.
(*d*) The time noted is very accurate. The satellite was of extreme faintness when first noticed.
(*e*) The satellite when first seen was extremely faint, and certainly was not visible 10ˢ before.
(*f*) Satellite very faint; it reappeared near the planet.

The initials W. C., E., C., L., J. C., H. C., and G., are those of Mr. Christie, Mr. Ellis, Mr. Criswick, Mr. Lynn, Mr. Carpenter, Mr. H. J. Carpenter, and Mr. Goldney.

An Early Transit of Mercury. Communicated by the Rev. A. Freeman, M.A., Fellow of St. John's College, Cambridge.

A transit of *Mercury* was observed at St. John's College, Cambridge, in 1782. The MS. record, never yet published, still exists. It appears to be in the handwriting of Dr. Isaac Pennington.

"Nov. 12, 1782.

	m s	
Regulator Clock slow	6 : 4·5	
Equation of Time	15 : 32 ‡	
Apparent Noon	XIʰ : 38 : 22·5	per clock.
☿ Ingress	II : 51 :	apparent time.
Ingress	II : 29 :	per clock.
☿ Egress	IV : 15 :	apparent time.
Egress	III : 53 :	per clock."

This observation is the more valuable, because clouds prevented Dr. Nevil Maskelyne from completing the observation at Greenwich. In the *Greenwich Observations* for 1782, he remarks, that, "On the going off of a cloud I first saw *Mercury* with the 46-inch

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